

NOV 08 2004

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FORM PTO-1449

# INFORMATION DISCLOSURE STATEMENT

GATTY, DOCKET NO.

2040.0410001

APPLICATION NO.

10/664.404

**FIRST NAMED INVENTOR**

**Jun Shen**

<b>FILING DATE</b>	01/11/2017
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**September 17, 2003**

ART UNIT

2092

3720

## U.S. PATENT DOCUMENTS

US PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
MT	AA1	4,065,677	12/1977	Micheron et al.			
	AB1	4,461,968	07/1984	Kolm et al.			
	AC1	4,496,211	01/1985	Daniel			
	AD1	4,570,139	02/1986	Kroll			
	AE1	4,755,706	07/1988	Harnden, Jr. et al.			
	AF1	5,016,978	05/1991	Fargette et al.			
	AG1	5,048,912	09/1991	Kunikane et al.			
	AH1	5,398,011	03/1995	Kimura et al.			
	AI1	5,454,904	10/1995	Ghezze et al.			
	AJ1	5,472,539	12/1995	Saia et al.			
MT	AK1	5,475,353	12/1995	Roshen et al.			

## FOREIGN PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
MT	AL1	DE 100 31 569 A1	02/2001	DE			Yes No
	AM1	DE 198 20 821 C1	12/1999	DE			Yes No
	AN1	0 452 012 A2 & A3	10/1991	EP			Yes No
	AO1	0 685 864 A1	12/1995	EP			Yes No
MT	AP1	0 709 911 A2	05/1996	EP			Yes No

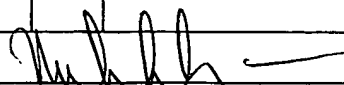
**OTHER (Including Author, Title, Date, Pertinent Pages, etc.)**


MT	AR	1	International Search Report for International Application No. PCT/US03/29254 mailed on March 05, 2004.
	AS	1	Richard P. Feymann, "There's Plenty of Room at the Bottom", December 29, 1959, pp.1-12, Internet Source: <a href="http://222.zyvex.com/nanotech/feynman.html">http://222.zyvex.com/nanotech/feynman.html</a> .
MT	AT	1	E. Fullin, J. Gobet, H.A.C. Tilmans, and J. Bergvist, "A New Basic Technology for Magnetic Micro-Actuators", pp. 143-147.

**EXAMINER**

DATE CONSIDERED

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				FIRST NAMED INVENTOR <b>Jun Shen</b>			
				FILING DATE <b>September 17, 2003</b>		ART UNIT <b>2822 3729</b>	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
MT	AA2	5,557,132	09/1996	Takahashi			
	AB2	5,629,918	05/1997	Ho et al.			
	AC2	5,696,619	12/1997	Knipe et al.			
	AD2	5,784,190	07/1998	Worley			
	AE2	5,818,316	10/1998	Shen et al.			
	AF2	5,838,847	11/1998	Pan et al.			
	AG2	5,847,631	12/1998	Taylor et al.			
	AH2	5,898,515	04/1999	Furlani et al.			
	AI2	5,945,898	08/1999	Judy et al.			
	AJ2	5,982,554	11/1999	Goldstein et al.			
MT	AK2	6,016,092	01/2000	Qiu et al.			
<b>FOREIGN PATENT DOCUMENTS</b>							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
MT	AL2	0 780 858 A1	06/1997	EP			Yes No
	AM2	0 869 519 A1	10/1998	EP			Yes No
	AN2	0 887 879 A1	12/1998	EP			Yes No
	AO2	2 572 546	05/1986	FR			Yes No
MT	AP2	4-275519	10/1992	JP			Yes No
<b>OTHER (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
MT	AR	2	Jack W. Judy and Richard S. Muller "Magnetically Actuated, Addressable Microstructures", September 1997, Journal of Microelectromechanical Systems, Vol. 6, No. 3, September 1997, pp.249-255.				
	AS	2	Ezekiel JJ Kruglick and Kristofer SJ Pister, "Project Overview: Micro-Relays", Tech. Digital Solid-State Sensor and Actuator Workshop, 1998, Hilton Head 98 and 19th International Conference on Electric Contact Phenomena, Nuremberg, Germany, Sept. 1998 (Downloaded from Internet Source: <a href="http://www-bsac.eecs.berkeley.edu/Kruglick/relays/relays.html">http://www- bsac.eecs.berkeley.edu/Kruglick/relays/relays.html</a> , on July 12, 1999) 2 pgs.				
MT	AT	2	Ezekiel J.J. Kruglick and Kristofer S.J. Pister, "Bistable MEMS Relays and Contact Characterization", Tech. Digital Solid-State Sensor and Actuator Workshop, Hilton Head, 1988 and 19th International Conference on Electric Contact Phenomena, Nuremberg, Germany, Sept. 1998, 5 pgs.				
EXAMINER					DATE CONSIDERED		
					10/25/06		
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				FILING DATE <b>September 17, 2003</b>		ART UNIT <del>2832</del> <b>3729</b>	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
MT	AA3	6,016,095	01/2000	Herbert			
	AB3	6,028,689	02/2000	Michalicek et al.			
	AC3	6,078,016	06/2000	Yoshikawa et al.			
	AD3	6,084,281	07/2000	Fullin et al.			
	AE3	6,094,293	07/2000	Yokoyama et al.			
	AF3	6,094,116	07/2000	Tai et al.			
	AG3	6,115,231	09/2000	Shirakawa			
	AH3	6,124,650	09/2000	Bishop et al.			
	AI3	6,143,997	11/2000	Feng et al.			
	AJ3	6,160,230	12/2000	McMillan et al.			
MT	AK3	6,297,072 B1	10/2001	Tilmans et al.			
<b>FOREIGN PATENT DOCUMENTS</b>							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
MT	AL3	6-251684	09/1994	JP			Yes No
	AM3	54-161952	12/1979	JP			Yes No
	AN3	WO 97/39468	10/1997	PCT			Yes No
	AO3	WO 98/34269	08/1998	PCT			Yes No
MT	AP3	WO 99/27548	06/1999	PCT			Yes No
<b>OTHER (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
MT	AR	3	Laure K. Lagorce and Oliver Brand, "Magnetic Microactuators Based on Polymer Magnets", March 1999, IEEE Journal of Microelectromechanical Systems, IEEE, Vol. 8., No. 1., March 1999, 8 pages.				
	AS	3	"P10D Electricity & Magnetism Lecture 14", Internet Source: <a href="http://scitec.uwhichill.edu.bb/cmp/online/P10D/Lecture14/lect14.htn">http://scitec.uwhichill.edu.bb/cmp/online/P10D/Lecture14/lect14.htn</a> , January 3, 2000, pp.1-5.				
MT	AT	3	"Ultraminiature Magnetic Latching to 5-relays SPDT DC TO C Band", Series RF 341, product information from Teledyne Relays, 1998.				
EXAMINER					DATE CONSIDERED		
					<b>10/26/03</b>		
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<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
MT	AA4	6,410,360 B1	06/2002	Steenberge			
MT	AB4	6,511,894 B2	01/2003	Song			
	AC4						
	AD4						
	AE4						
	AF4						
	AG4						
	AH4						
	AI4						
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	AK4						
<b>FOREIGN PATENT DOCUMENTS</b>							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL4						Yes No
	AM4						Yes No
	AN4						Yes No
	AO4						Yes No
	AP4						Yes No
<b>OTHER (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
MT	AR	<u>4</u>	M. Ruan et al., "Latching Microelectromagnetic Relays", Sensors and Actuators A 91 (July 15, 2001), Copyright 2001 Elsevier Science B.V., pages 346-350.				
	AS	<u>4</u>	Xi-Qing Sun, K.R. Farmer, W.N. Carr, "A Bistable Microrelay Based on Two-Segment Multimorph Cantilever Actuators", 11th Annual Workshop on Micro Electrical Mechanical Systems, Heidelberg, Germany, IEEE, January 25-29, 1998, pp. 154-159.				
MT	AT	<u>4</u>	William P. Taylor and Mark G. Allen, "Integrated Magnetic Microrelays: Normally Open, Normally Closed, and Multi-Pole Devices", 1997 International Conference on Solid-State Sensors and Actuators, IEEE, June 16-19, 1997, pp. 1149-1152.				
EXAMINER					DATE CONSIDERED		
					10/26/05		
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	AA4						
	AB5						
	AC5						
	AD5						
	AE5						
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## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL5						Yes No
	AM5						Yes No
	AN5						Yes No
	AO5						Yes No
	AP5						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

MT	AR	5	William P. Taylor, Oliver Brand, and Mark G. Allen. "Fully Integrated Magnetically Actuated Micromachined Relays", Journal of Microelectromechanical Systems, IEEE, Vol. 7, No. 2, June 1998, pp.181-191.
MT	AS	5	Tilmans, et al., "A Fully-Packaged Electromagnetic Microrelay", Proc. MEMS '99, Orlando, FL, January 17-21, 1999, copyright IEEE 1999, pp. 25-30.
MT	AT	5	William Trimmer, "The Scaling of Micromechanical Devices", Internet Source: <a href="http://home.earthlink.net/~trimmerw/mems/scale.html">http://home.earthlink.net/~trimmerw/mems/scale.html</a> on January 3, 2000 (adapted from article "Microrobots and Micromechanical Systems by W.S.N. Trimmer, Sensors and Actuators, Vol. 19, No. 3, September 1989, pp. 267-287, and other sources)

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5432-3220

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA6					
	AB4					
	AC6					
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	AE6					
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## FOREIGN PATENT DOCUMENTS

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	AM6					Yes No
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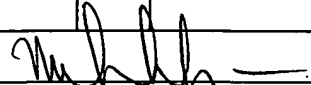

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

MT	AR	6	John A. Wright and Yu-Chong Tai, "Micro-Miniature Electromagnetic Switches Fabricated Using MEMS Technology", Proceedings: 46th Annual International Relay Conference: NARM '98, April 1998, pages 13-1 to 13-4.
	AS	6	John A. Wright, Yu-Chong Tai and Gerald Lilienthal, "A Magnetostatic MEMS Switch for DC Brushless Motor Commutation", Proceedings Solid State Sensor and Actuator Workshop, Hilton Head, 1998, June 1998, pages 304-307.
MT	AT	6	John A. Wright, Yu-Chong Tai, and Shih-Chia Chang, "A Large-Force, Fully-Integrated MEMS Magnetic Actuator", Transducers '97, 1997 International Conference on Solid State Sensors and Actuators, Chicago, June 16-19, 1997.

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA7						
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	AL7						Yes No
	AM7						Yes No
	AN7						Yes No
	AO7						Yes No
	AP7						Yes No
<b>OTHER (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
MT	AR	Z	Ann, Chong H. & Allen, Mark G., "A Fully Integrated Micromagnetic Actuator With A Multilevel Meander Magnetic Core, 1992 IEEE, Solid-State Sensor and Actuator Workshop, Technical Digest, Hilton Head Island, South Carolina, June 22-25, 1992, Technical Digest, pp. 14-17.				
	AS	Z	English-Language Abstract of DE 10031569, published February 1, 2001, 1 page.				
MT	AT	Z	English-Language Abstract of DE 19820821, published December 16, 1999, 1 page.				
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ART UNIT

3832 729

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA8						
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## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL8						Yes No
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## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

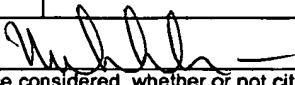

MT	AR	8	English-Language Abstract of EP 0780858, published June 25, 1997, 1 page.
	AS	8	English-Language Abstract of EP 0869519, published October 7, 1998, 1 page.
MT	AT	8	English-Language Abstract of FR 2572546, published May 2, 1986, 1 page.

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA9						
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<b>FOREIGN PATENT DOCUMENTS</b>							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL9						Yes No
	AM9						Yes No
	AN9						Yes No
	AO9						Yes No
	AP9						Yes No
<b>OTHER (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
MT	AR	<u>9</u>	English-Language Abstract of JP 4275519, published October 1, 1992, 1 page.				
	AS	<u>9</u>	English-Language Abstract of JP 6251684, published September 9, 1994, 1 page.				
MT	AT	<u>9</u>	English-Language Abstract of JP 54161952, published December 22, 1979, 1 page.				
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	AA10					
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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
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	AM10					Yes No
	AN10					Yes No
	AO10					Yes No
	AP10					Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

MT	AR	10	English-Language Abstract of WO 9927548, published June 3, 1999, 1 page.
	AS	10	
	AT	10	

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